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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/078,247	02/14/2002	Paul A. Wender	8400-0013	3262

23980 7590 11/26/2007

MINTZ, LEVIN, COHN, FERRIS, GLOVSKY AND POPEO, P.C
1400 PAGE MILL ROAD
PALO ALTO, CA 94304-1124

EXAMINER	
GUDIBANDE, SATYANARAYAN R	
ART UNIT	**PAPER NUMBER**
1654	
MAIL DATE	**DELIVERY MODE**
11/26/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/078,247	WENDER ET AL.	
	Examiner	Art Unit	
	Satyanarayana R. Gudibande	1654	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 September 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6 and 8-38* is/are pending in the application.

4a) Of the above claim(s) *3,5,6,9,10 and 12-38* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,4,8 and 11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Newly submitted claims 36-38 directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: the invention as recited in claim 36 does not further limit the invention recited in claim 1 and hence alters the scope of the invention.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 36-38 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Applicant's amendments to claims in the response flied on 9/14/07 have been acknowledged.

Claims 1-6 and 8-35 are pending.

Claims 3, 5, 6, 9, 10 and 12-35 have been withdrawn from further consideration as being drawn to non-elected species.

Claims 36-38 have been withdrawn from further consideration as being drawn to non-elected invention (please see above).

Claim 7 has been canceled.

Claims 1, 2, 4, 8 and 11 are examined on the merit.

Any objections and rejections made in our previous office action dated 5/29/07 and not specifically mentioned here are considered withdrawn.

Claim Objections

Claim 11 contains allowable subject matter but depends from a rejected claim 4.

Maintained Rejections

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2 and 8 remain rejected under 35 U.S.C. 102(b) as being anticipated by Lorenzen, et al., The Journal of Cell Biology, 1995, 131, 631-643 as stated in our rejection dated 9/21/06 for claims 1, 2, 7 and 8.

Applicants argue that office asserts that the figure 1 on page 633 of the cited reference of Lorenzen, et al., anticipates applicant's invention in which the catalytic region corresponds to the biologically active moiety, the nuclear localization signal region represented in part by RKRKR basic cluster corresponds to the transport moiety and the intervening amino acid sequence corresponds to the applicant's linker moiety. Applicants further argue that the office has mischaracterized the intervening sequence as the linker moiety and the office has not set forth where in the reference Lorenzen teaches that the referenced 'intervening sequence' region performs the function of a linker moiety and is not supported by the teachings of the cited

reference. Applicants, further state that, even if the 'intervening sequence' region could be interpreted as a linker moiety, the cited reference does not teach a 'self-immolating moiety'. Applicants point out that this issue even though raised earlier the office has failed to address this issue. Applicants provide a definition of 'self-immolating' linker as a moiety that undergo '**autologous intermolecular cleavage**' that is **cleavage on its own (emphasis added by office)**. Applicants further state that the cited reference does not teach this aspect of 'self-immolation of linker moiety' of instant invention.

Applicant's arguments filed 9/14/07 have been fully considered but they are not persuasive. Applicant's argument that the cited reference does not teach that the intervening sequence performs the function of the linker moiety is not persuasive, because, the definition of linking moiety according to the applicant's disclosure encompasses, "[I]n certain embodiments, the transport moiety is attached to the biologically active compound through a **linking moiety** (L). Such a linking moiety has two termini, one that covalently bonds to the transport moiety and one that covalently bonds to the biologically active compound. The termini each contain a functional group that serves as a facile point of attachment. Examples of such groups include, without limitation, carboxylic acids, carboxylic acid derivatives, alcohols, amines and thiols" (page 12, lines 3-8). In the instant case the intervening sequence has an amine at one end and a carboxylic terminal at the other end and is bonded covalently to the biologically active moiety on one end and to the transport moiety at the other end and hence the 'intervening sequence' is a linking moiety as per the definition provided for the 'linking moiety' in the applicant's disclosure. Applicant's further argument that the cited reference does not teach that the linking moiety

undergoes 'autologous intermolecular cleavage (self-immolations)' is not persuasive, because, even though the reference does not specifically teach 'self-immolation', applicants have not provided any evidence that the intervening peptide sequence that acts as a 'linking moiety' is '**not capable**' of 'intermolecular cleavage' considering that there are peptidases present in the 'in vivo' environment. Moreover, the claims in the instant invention are drawn to a composition **comprising** a biologically active compound, a transport moiety and a linker moiety 'capable' of self-immolation linking the biologically active compound and the transport moiety. Therefore, the claim as recited does not preclude the presence of other compounds that would assist in the 'autologous intermolecular cleavage' of the linker moiety in the composition.

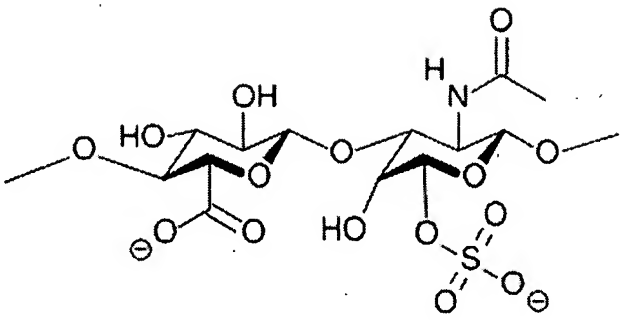
Therefore, the anticipation rejection over Lorenzen, et al., reference is proper and is maintained.

Claims 1 and 4 remain rejected under 35 U.S.C. 102(b) as being anticipated by Olsson et al., Biochim. Biophys. Acta, 1991, 1097:37-44 as stated in our rejection dated 9/21/06 for claims 1 and 4.

Applicants argue that office asserts that the peptide RSRSRSRSRSR capable of inhibiting association of LDL with chondroitin-6-sulfate anticipates the instant invention because, the complex of peptide RSRSRSRSRSR with chondroitin-6-sulfate anticipates the instant invention. Applicants further argue that Olsson, does not teach a 'self-immolating moiety' as required by the instant invention. Applicants further points out that there is no teaching in Olsson, that the interaction of chondroitan-6-sulfate and the peptide involves an intermediary

linker and the association is rather direct. Applicant further draws attention to an earlier remark made in their response dated 3/8/07 that office has failed to address this issue regarding non-teaching of the aforementioned element lacking in the cited reference.

Applicant's arguments filed 9/14/07 have been fully considered but they are not persuasive, because, because, the definition of linking moiety according to the applicant's disclosure encompasses, "[I]n certain embodiments, the transport moiety is attached to the biologically active compound through a **linking moiety** (L). Such a linking moiety has two termini, one that covalently bonds to the transport moiety and one that covalently bonds to the biologically active compound. The termini each contain a functional group that serves as a facile point of attachment. Examples of such groups include, without limitation, carboxylic acids, carboxylic acid derivatives, alcohols, amines and thiols" (page 12, lines 3-8). In addition to the above-described definition and the fact that the instant claims are drawn to a composition **comprising** a biologically active compound, a transport moiety and a linker moiety 'capable' of self-immolation linking the biologically active compound and the transport moiety. Therefore, the claim as recited does not preclude the presence of other compounds that would assist in the association of the peptide RSRSRSRSRSR with chondroitin-6-sulfate. Moreover, as per the definition provide in the disclosure, that 'the termini each contain a functional group that serves as a facile point of attachment' would suffice to anticipate the instant claim. Moreover, the chondroitin-6-sulfate has hydroxyl, carboxylic functional groups (as shown in the figure below) that can interact with the amine, hydroxyl and carboxylic functional groups of the peptide RSRSRSRSRSR forming a 'facile point of attachment'. Therefore, the reference of Olsson anticipates the instant invention.



Structure of Chondroitin-6-sulfate

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 2, 4 and 8 remain rejected under 35 U.S.C. 102(e) as being anticipated by US 7,070,807 B2 issued to Mixson as stated in our rejection dated 9/21/06 for claims 1, 2, 4, 7and 8.

Applicants argue that the office asserts that Mixson, discloses a polymer:liposome:DNA complex that anticipates the instant invention. Applicants further argue that the cited reference does not describe liposome as 'linking' the polymer to the DNA, rather Mixon merely indicates, that the components are mixed together and refers to that mixture as a complex without characterizing the nature of the referenced complex and in fact it is unlikely that the liposome actually links the polymer and the DNA. Applicants further state that there is no teaching that the liposome is self-immolating.

Applicant's arguments filed 9/14/07 have been fully considered but they are not persuasive. The argument that Mixon does not describe liposome as 'linking' the polymer to the DNA, rather Mixon merely indicates, that the components are mixed together and refers to that mixture as a complex without characterizing the nature of the referenced complex and in fact it is unlikely that the liposome actually links the polymer and the DNA is not persuasive, because, the instant claims are drawn to a composition **comprising** a biologically active compound, a transport moiety and a linker moiety 'capable' of self-immolation linking the biologically active compound and the transport moiety. Therefore, the claim as recited is also drawn to a mere mixture comprising of biological agent, a transport moiety and a linking moiety and the association among the aforementioned individual components are not clearly evident from the claim as recited. With regards to applicant's argument that Mixon does not teach that the liposome is self-immolating, it should be noted that the applicants have not provided evidence to show that liposomes are 'not capable of self-immolation'. Moreover, the definition of the linking moiety provided in the specification encompasses, "[I]n certain embodiments, the transport moiety is attached to the biologically active compound through a **linking moiety** (L). Such a linking moiety has two termini, one that covalently bonds to the transport moiety and one that covalently bonds to the biologically active compound. The termini each contain a functional group that serves as a facile point of attachment. Examples of such groups include, without limitation, carboxylic acids, carboxylic acid derivatives, alcohols, amines and thiols" (page 12, lines 3-8). As per the definition 'a facile point of attachment' between the biological compound, transport moiety and the linking moiety via a number of different functional groups present on the different components biological compound, transport moiety and the linking moiety meats

the limitations of the instant invention. Therefore, Mixon anticipates the instant invention as stated in our office action dated 9/21/06.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Satyanarayana R. Gudibande whose telephone number is 571-272-8146. The examiner can normally be reached on M-F 8-4.30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cecilia Tsang can be reached on 571-272-0562. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Satyanarayana R. Gudibande, Ph.D.
Art Unit 1654

11/05/08
ANISH GUPTA
PRIMARY EXAMINER